CLAIMS

WE CLAIM:

1. A highly lubricious hydrophilic coating for a medical device comprising a mixture of colloidal aliphatic polyurethane, an aqueous dilution of PVP and specific dendrimers to enhance the physical integrity of the coating, to improve adhesion and to covalently bind or load one of a certain antithrombolitic drug or a certain antibiotic drug or other agent within the dendrimer structure.

2. The coating of claim 1 wherein the antithrombolitic drug is sodium heparin.

3. The coating of claim 1 wherein the agent is an antibiotic.

4. The coating of claim 1 wherein the agent is a dye.

5. The coating of claim 1 comprising a colloidal dispersion of an aliphatic polyurethane polymer in a solvent mixture including:

an aliphatic polyurethane polymer;

purified water;

N-methyl-2 pyrrolidone;

dendrimers;

poly (1-vinylpyrrolidone-co-2-diamethylamino ethyl methacrylate)-PVP

triethylamine; and,

an agent.

6. The coating of claim 5 wherein the agent is an antithrombolitic drug.

7. The coating of claim 5 wherein the antithrombolitic drug is sodium heparin.

8. The coating of claim 5 wherein the agent is an antibiotic drug.

9. The coating of claim 5 wherein the agent is a dye.

10. A method for applying the coating of claim 1 to a medical device comprising the step of dipping the medical device into a solution containing the mixture of colloidal aliphatic polyurethane, the aqueous dilution of PVP and the specific dendrimers.

11. A method for applying the coating of claim 1 to a medical device

comprising the step of airless spraying of the medical device with a solution containing the mixture of colloidal aliphatic polyurethane, the aqueous dilution of PVP and the specific dendrimers.

12. A method for applying the coating of claim 1 to a catheter comprising the step of dipping the catheter into a solution containing the mixture of colloidal aliphatic polyurethane, the aqueous dilution of PVP and the specific dendrimers.

13. The method of claim 12 further including the step of flushing a lumen of the catheter with nitrogen during the dipping process to prevent the solution from entering the catheter's lumen.

14. A medical device coated, in a first zone where the medical device contacts blood, with a first hydrophilic coating containing an eluting anti-thrombogenic drug and/or dye, coated, in a second zone, where the medical device comes in contact with tissue, with a second hydrophilic coating containing an eluting antibiotic drug and/or dye.

15. The medical device of claim 14 wherein each hydrophilic coating comprises a mixture of colloidal aliphatic polyurethane, an aqueous dilution of PVP and specific dendrimers to enhance the physical integrity of the coating, to improve adhesion and to covalently bind or load with either the antithrombolitic drug or the antibiotic drug or the dye.

16. The medical device of claim 14 being a catheter.